REMARKS

Remaining Claims

Thirty-six (36) claims (Claims 1-6, 8-15, 17-27, and 29-39) remain pending in this application through this Amendment. Claims 1, 8, 15, 27, 29, 34, 38, and 39 have been amended herein, and Claims 7, 16, and 28 have been canceled. As explained in more detail below, Applicants submit that all claims are in condition for allowance and respectfully request such action.

Amendments to the Specification

Please amend the Specification by substituting the two paragraphs indicated herein to correct typographical omissions of the variable, "π". Applicants submit that no new matter has been added, as the addition of $\pi/2$ can be inferred from the inclusion of a 90° phase shift.

Objections to Claims 7-8, 13-14, 16, 20, 22, 26, 29, 34, 37-39

The Examiner objected to Claims 7-8, 13-14, 16, 20, 22, 26, 29, 34, and 37-39 as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all limitations of the base claim and any intervening claims. Thus, Applicants would like to thank the Examiner for recognizing the allowable subject matter. As discussed herein, Applicants submit that all independent claims are in condition for allowance. Because these dependent claims incorporate the limitations of the claims on which they depend, these dependent claims are allowable for the reasons set forth below for the corresponding independent Claims.

Rejection of Claims 1-6, 9-12, 15, 17-19, 21, 23-25, 27-28, 30-33, and 35-36 under 35 USC §102(b) – Urabe et al.

Claims 1-6, 9-12, 15, 17-19, 21, 23-25, 27-28, 30-33, and 35-36 are rejected under 35 USC §102(b) as being anticipated by Urabe et al. (U.S. Patent No. 5,828,707). Applicants respectfully traverse this rejection.

Claim 1 is currently amended to include the limitation, "a post-detection correction logic, the post-detection correction logic being applied to the decision signal

and reducing inter-symbol interference." Urabe et al. does not disclose, teach, or suggest a post-detection correction logic, and the Examiner has indicated that such subject matter is allowable. Accordingly, Applicants submit that independent Claim 1 is not anticipated by Urabe et al. and respectfully request that the rejection be withdrawn.

Because dependent Claims 2-6 and 8 incorporate the limitations of the claims on which they depend, these dependent claims are not anticipated for at least the reasons set forth above for the corresponding independent Claim. Thus, as Claim 1 is allowable, Claims 2-6 and 8 are also allowable.

Claim 4 is also not anticipated for at least the reason that Urabe et al. does not disclose, teach, or suggest that the delay logic has a sampling rate of about 50 million samples per second.

Claim 5 is also not anticipated for at least the reason that Urabe et al. does not disclose, teach, or suggest that the delay period of the delay logic is adjustable, allowing for frequency offset compensation.

Claim 6 is also not anticipated for at least the reason that Urabe et al. does not disclose, teach, or suggest that the delay logic comprises a multi-stage delay.

Claim 8, currently amended to correct dependency and to correct a typographical omission, is also not anticipated for at least the reason that Urabe et al. does not disclose, teach, or suggest that the post-detection correction logic further comprises test logic and a multiplexer.

Independent Claim 9 stands rejected as being anticipated by Urabe et al. Applicants respectfully traverse this rejection. Claim 9 recites, in part, "a delay logic, receiving an input signal in quadrature and in-phase components, and applying a delay to each of the in-phase and quadrature phase components of the input signal, *wherein the delay is adjustable, allowing for frequency offset compensation.*" (emphasis added). Urabe et al. does not disclose, teach, or suggest a delay that is adjustable, which allows for frequency offset compensation. Accordingly, Applicants submit that independent Claim 9 is not anticipated by Urabe et al. and respectfully request that the rejection be withdrawn.

Because dependent Claims 10-14 incorporate the limitations of the claims on which they depend, these dependent claims are not anticipated for at least the reasons set forth above for the corresponding independent Claim. Thus, as Claim 9 is allowable, Claims 10-14 are also allowable.

Claim 11 is also not anticipated for at least the reason that Urabe et al. does not disclose, teach, or suggest that the delay logic has a sampling rate of about 50 million samples per second.

Claim 12 is also not anticipated for at least the reason that Urabe et al. does not disclose, teach, or suggest that the delay logic comprises a multi-stage delay.

Claim 13 is also not anticipated for at least the reason that Urabe et al. does not disclose, teach, or suggest a post-detection correction logic, the post-detection correction logic being applied to the decision signal and reducing the inter-symbol interference.

Claim 14 is also not anticipated for at least the reason that Urabe et al. does not disclose, teach, or suggest that the post-detection correction logic further comprises test logic and a multiplexer.

Claim 15 is currently amended to include the steps of "testing to find whether the absolute value of the decision variable exceeds a threshold; sending the result of the test to the selection input of a multiplexer; and outputting the decision variable from the multiplexer if it exceeds a certain threshold, otherwise choosing an inversion of the previous multiplexer output." Urabe et al. does not disclose, teach, or suggest such steps, and the Examiner has indicated that such steps would be allowable. Accordingly, Applicants submit that independent Claim 15 is not anticipated by Urabe et al. and respectfully request that the rejection be withdrawn.

Because dependent Claims 17-20 incorporate the limitations of the claims on which they depend, these dependent claims are not anticipated for at least the reasons set forth above for the corresponding independent Claim. Thus, as Claim 15 is allowable, Claims 17-20 are also allowable.

Claim 18 is also not anticipated for at least the reason that Urabe et al. does not disclose, teach, or suggest that the delay is realized using shift registers which sample at the rate of about 50 million samples per second.

Claim 19 is also not anticipated for at least the reason that Urabe et al. does not disclose, teach, or suggest a method of detecting data comprising the step of adjusting the delay, to allow for frequency offset compensation.

Claim 20 is also not anticipated for at least the reason that Urabe et al. does not disclose, teach, or suggest that the adjustment of the delay occurs during a transmission preamble, and comprises a two stage adjustment, the first being a rough compensation at the beginning of the preamble and the second being a fine compensation at the end of the preamble.

Independent Claim 21 stands rejected as being anticipated by Urabe et al. Applicants respectfully traverse this rejection. Claim 21 recites, in part, a method for detecting data comprising the step of "compensating for a frequency offset." Urabe et al. does not disclose, teach, or suggest a method for detecting data comprising the step of compensating for a frequency offset. Accordingly, Applicants submit that independent Claim 21 is not anticipated by Urabe et al. and respectfully request that the rejection be withdrawn.

Because dependent Claims 22-26 incorporate the limitations of the claims on which they depend, these dependent claims are not anticipated for at least the reasons set forth above for the corresponding independent Claim. Thus, as Claim 21 is allowable, Claims 22-26 are also allowable.

Claim 22 is also not anticipated for at least the reason that Urabe et al. does not disclose, teach, or suggest a method for detecting data further comprising a post-detection correction method comprising the steps of testing to find whether the absolute value of the decision variable exceeds a threshold; sending the result of the test to the selection input of a multiplexer; and outputting the decision variable from the multiplexer if it exceeds a certain threshold, otherwise choosing an inversion of the previous multiplexer output.

Claim 24 is also not anticipated for at least the reason that Urabe et al. does not disclose, teach, or suggest that the delay is realized using shift registers which sample at the rate of about 50 million samples per second.

Claim 25 is also not anticipated for at least the reason that Urabe et al. does not disclose, teach, or suggest a method for detecting data, wherein the frequency offset compensation comprises adjusting the delay.

Claim 26 is also not anticipated for at least the reason that Urabe et al. does not disclose, teach, or suggest that the adjustment of the delay occurs during a transmission preamble, and comprises a two stage adjustment, the first being a rough compensation at the beginning of the preamble and the second being a fine compensation at the end of the preamble.

Claim 27 is currently amended to include the limitation, "post-detection correction means." Urabe et al. does not disclose, teach, or suggest post-detection correction means, and the Examiner has indicated that such subject matter is allowable. Accordingly, Applicants submit that independent Claim 27 is not anticipated by Urabe et al. and respectfully request that the rejection be withdrawn.

Because dependent Claims 29-30 incorporate the limitations of the claims on which they depend, these dependent claims are not anticipated for at least the reasons set forth above for the corresponding independent Claim. Thus, as Claim 27 is allowable, Claims 29-30 are also allowable.

Claim 29, currently amended to correct dependency, is also not anticipated for at least the reason that Urabe et al. does not disclose, teach, or suggest post detection correction means comprising means for testing whether the absolute value of the decision variable exceeds a threshold and means for outputting either the decision variable or an inversion of the previous output, depending on the result of the testing means.

Claim 31 is also not anticipated for at least the reason that Urabe et al. does not disclose, teach, or suggest that the delay means are shift registers which sample at a rate of about 50 million samples per second.

Claim 32 is also not anticipated for at least the reason that Urabe et al. does not disclose, teach, or suggest that the data detection further comprises a means for compensating for frequency offset.

Claim 33 is also not anticipated for at least the reason that Urabe et al. does not disclose, teach, or suggest that the frequency offset compensation means comprises making the delay means adjustable.

Claim 34, currently amended to correct a typographical error, is also not anticipated for at least the reason that Urabe et al. does not disclose, teach, or suggest that the adjustable delay means comprises both a rough compensation at the beginning of a preamble transmission and a fine compensation at the end of the preamble transmission.

Claim 35 stands rejected as being anticipated by Urabe et al. Applicants respectfully traverse this rejection. To anticipate a claim, the reference must disclose each and every limitation recited in the claim. Because Urabe et al. does not disclose, teach, or suggest each and every limitation of independent Claim 35, it cannot anticipate Claim 35. Accordingly, Applicants submit that independent Claim 35 is not anticipated by Urabe et al. and respectfully request that the rejection be withdrawn.

Because dependent Claims 36-39 incorporate the limitations of the claims on which they depend, these dependent claims are not anticipated for at least the reasons set forth above for the corresponding independent Claim. Thus, as Claim 35 is allowable, Claims 36-39 are also allowable.

Claim 36 is also not anticipated for at least the reason that Urabe et al. does not disclose, teach, or suggest that the chain further comprises a post detection filter receiving the decision variable and removing the odd order cross components.

Claim 37 is also not anticipated for at least the reason that Urabe et al. does not disclose, teach, or suggest that the chain further comprises a post detection correction algorithm, comprising a multiplexer having two inputs and a selection signal, the first input comprising the output of the post detection filter, the second input comprising a delayed inversion of the previous multiplexer output, and the selection signal comprising
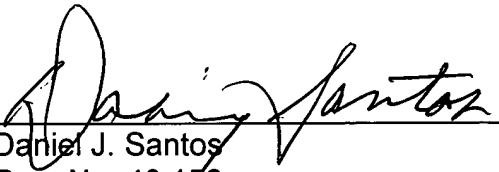
a test result, wherein the test is whether the absolute value of the output of the post detection filter is greater than a threshold value.

Claims 38 and 39 are currently amended to correct typographical errors relating to dependency. Claim 39 is also not anticipated for at least the reason that Urabe et al. does not disclose, teach, or suggest that the delay comprises of a plurality of shift registers, and that the chain further comprises a delay selection to adjust the delay according to which delay fits the incoming frequency to most effectively detect the data.

CONCLUSION

For the reasons set forth above, it is respectfully submitted that all pending claims are now in condition for allowance, and Applicants request a Notice of Allowance be issued in this case. Should there be any further questions or concerns, the Examiner is urged to telephone the undersigned to expedite prosecution.

Respectfully submitted,
GARDNER GROFF, P.C.

Daniel J. Santos
Reg. No. 40,158

GARDNER GROFF, P.C.
Paper Mill Village, Building 23
600 Village Trace, Suite 300
Marietta, Georgia 30067
Phone: 770.984.2300
Fax: 770.984.0098